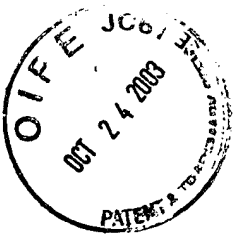


Figure 1



2/20

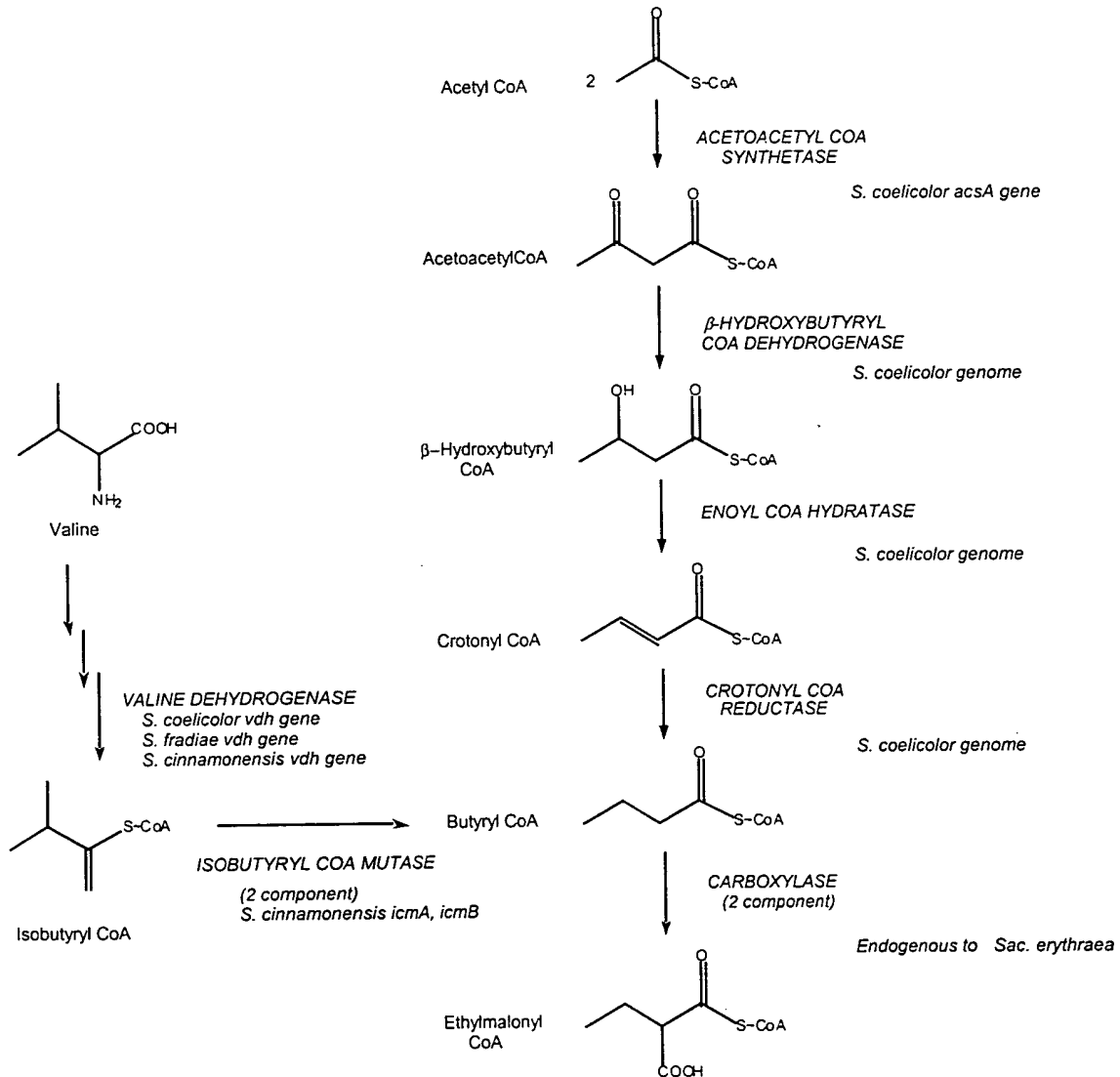


Figure 2



3/20

gatctggatg tcgaagccgg gacggagcgg gatgacggcg tcagcggcgt cttccatgtg 60
gaactcctta tccggacgac tcgacctggg tggctaagcg gagattaggt ctgcgcgcgc 120
gaaaccgccc agcggagcgc cgagatcctc acctgatcag gtaaggatct tcattcgatg 180
tcatgtagcc agatttcggc tgaactgggc cacgatcccg attcgtgacc atgcgtgtcc 240
actttggagc ggggtgcgttc gttcggccta gtggcgtgct ccgcgggtgat caagtgttag 300
gttagcctca gctcagcggg gtcgacggat ggagtgaacg gc gtg gcg ggc gac 354
Val Ala Gly Asp
1

gtg gaa ctc gcg gac agg gct cga cga cgc gcg tgc cgg ctg ctc agg 402
Val Glu Leu Ala Asp Arg Ala Arg Arg Arg Ala Cys Arg Leu Leu Arg
5 10 15 20

XbaI
cgt tgg ctg gcc gag acg cac act ccg gtg gag ccc ggc ccg ctg tcc 450
Arg Trp Leu Ala Glu Thr His Thr Pro Val Glu Pro Gly Pro Leu Ser
25 30 35

ctg cgg atc ggc ccg gtg cgg gtg tcg gcc gag gtc gct tac cgc tcg 498
Leu Arg Ile Gly Pro Val Arg Val Ser Ala Glu Val Ala Tyr Arg Ser
40 45 50

ccg acg ggc gcc cac ggg ttc ggc ccg atc cgc gtc ctc gat gcc gag 546
Pro Thr Gly Ala His Gly Phe Gly Pro Ile Arg Val Leu Asp Ala Glu
55 60 65

ggg gtg ccg gtg gcg ctc gcc gat ccg gtg ctg ctg gcg gcc gcc tgc 594
Gly Val Pro Val Ala Leu Ala Asp Pro Val Leu Leu Ala Ala Ala Cys
70 75 80

tcg gcg gac tcg cgg agc cgc tcg ctg ccg agc gcg ccg atc aac gcc 642
Ser Ala Asp Ser Arg Ser Arg Ser Leu Pro Ser Ala Pro Ile Asn Ala
85 90 95 100

ccg gac gcc ggt acc gct gtc gac tgg gtg ctc tcg tcg ctc gcc gac 690
Pro Asp Ala Gly Thr Ala Val Asp Trp Val Leu Ser Ser Leu Ala Asp
105 110 115

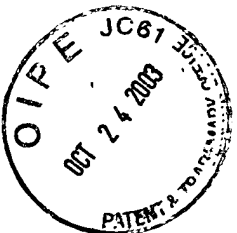
gac gag gac gac gag gtg ccc gcc ggc atg acc gcg gag gag gcg gtg 738
Asp Glu Asp Asp Glu Val Pro Ala Gly Met Thr Ala Glu Glu Ala Val
120 125 130

cgc ctg ctg tcg cgg cag gtc gac gac ctg ccg cgg tcg ccg ggc gcc 786
Arg Leu Leu Ser Arg Gln Val Asp Asp Leu Pro Arg Ser Pro Gly Ala
135 140 145

gac ccg tgg tcg ctg gtc gcc ggc ccg ctg gcg gcc atc ggg cgg ttc 834
Asp Pro Trp Ser Leu Val Ala Gly Pro Leu Ala Ala Ile Gly Arg Phe
150 155 160

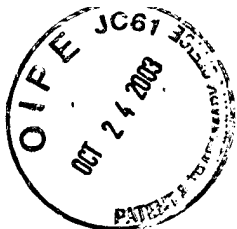
ggg cgg gcc ggg atc gcc gac gag tgc tgg ttg ctg gag gtg ctc gcc 882
Gly Arg Ala Gly Ile Ala Asp Glu Cys Trp Leu Leu Glu Val Leu Ala
165 170 175 180

Figure 3 A



ggg cgg ctc cgc gcg gtc gac gac gac ctg tcc cgc tcg tgg ctg agc	930
Gly Arg Leu Arg Ala Val Asp Asp Asp Leu Ser Arg Ser Trp Leu Ser	
185 190 195	
agt ccg acg ctc gcc gac cgc gct gtg ctc gtg ggt gag ggg ttg cgc	978
Ser Pro Thr Leu Ala Asp Arg Ala Val Leu Val Gly Glu Gly Leu Arg	
200 205 210	
tac cgg ccg gat gtg cgg ccg gtg ccg ttc gac gtg ccg aac ccg ctg	1026
Tyr Arg Pro Asp Val Arg Pro Val Pro Phe Asp Val Pro Asn Pro Leu	
215 220 225	
cac gag ggc aag tcc gac gtc ccg ccg ccg ccc gtg ccc gtg ctg ggc	1074
His Glu Gly Lys Ser Asp Val Pro Pro Pro Pro Val Pro Val Leu Gly	
230 235 240	
ggg ccg tgg tcg ctg cgt ccg gtc gag gtc gcg gtc cac ggg gat ggc	1122
Gly Pro Trp Ser Leu Arg Pro Val Glu Val Ala Val His Gly Asp Gly	
245 250 255 260	
ggg cct gac gtc gca ctg gtg cac cgc tgg atg aac acc ccg cac gtc	1170
Gly Pro Asp Val Ala Leu Val His Arg Trp Met Asn Thr Pro His Val	
265 270 275	
gcg cac cac tgg aac cag gcg tgg ccg ctg gag cgc tgg cgg gag gaa	1218
Ala His His Trp Asn Gln Ala Trp Pro Leu Glu Arg Trp Arg Glu Glu	
280 285 290	
ctc gcc cac cag ctc ggc ggt gag cac tcc ctg ccc tgc gtg gtc gga	1266
Leu Ala His Gln Leu Gly Gly Glu His Ser Leu Pro Cys Val Val Gly	
295 300 305	
cac gag gga cgc gag gtc gcg tat ctg gag ctc tac cgg gtg acc cgc	1314
His Glu Gly Arg Glu Val Ala Tyr Leu Glu Leu Tyr Arg Val Thr Arg	
310 315 320	
HindIII	
gac aag ctt gcg ggc tgc tac ccg tac ggg ccg cac gac ctc ggg gtc	1362
Asp Lys Leu Ala Gly Cys Tyr Pro Tyr Gly Pro His Asp Leu Gly Val	
325 330 335 340	
cac atc gcg atc ggc gag ccg gag gtg ctc ggg cgc ggt ttc ggg tcg	1410
His Ile Ala Ile Gly Glu Arg Glu Val Leu Gly Arg Gly Phe Gly Ser	
345 350 355	
tcg ctg ctg cgc gcg gtc gcg ggt gcg ctg ctg gac gcc gat ccg ccg	1458
Ser Leu Leu Arg Ala Val Ala Gly Ala Leu Leu Asp Ala Asp Pro Arg	
360 365 370	
tgc gcg ccg gtg gtc gcc gag ccg aat gtg cac aac gag gct tcg gtg	1506
Cys Ala Arg Val Val Ala Glu Pro Asn Val His Asn Glu Ala Ser Val	
375 380 385	

Figure 3 B



App No.: 10/607,809

Docket No.: 300622004810

Inventor: Leonard KATZ and Peter REVILL

Title: PRODUCTION OF POLYKETIDES

5/20

```
cgc gcc ttc gcc aag gcc ggg ttc gtc cgg gag agg gag atc ggc ctg 1554
Arg Ala Phe Ala Lys Ala Gly Phe Val Arg Glu Arg Glu Ile Gly Leu
    390                      395                      400

ccc gcc aag aac tcg gct ctg atg gtc ttc tcc cgg gtc t gacgaccggt 1604
Pro Ala Lys Asn Ser Ala Leu Met Val Phe Ser Arg Val (SEQ ID NO:2)
    405                      410                      415

catgcccctg tgtgaacgcg tgagtaagcg caccgtgacg tgatcccccg cttgaaccaa 1664
ggtttagcctt acttttattg gtggagaacg atgccggagc gtcctcgccgt gtcgttgccg 1724
ctgaccacag cgcagtaggg catctggttc gcccagcaac tcgaccggac gaacccgatc 1784
tacaacaccg gcgagtgcgt cgagatcagc ggcccgggtg agccggtggt gttcgagcag 1844
gccctgcggt ggggctggc ggaggccgag gcgctgcgag cccgcgtggt cgtcgacggc 1904
gacgagccgc gccaggtcgt ggagccggag gtggacttcc cgctgccgtg ctcgacgtca 1964
gcgccgaggc ggaccc (SEQ ID NO:1) 1980
```

Figure 3 C



6/20

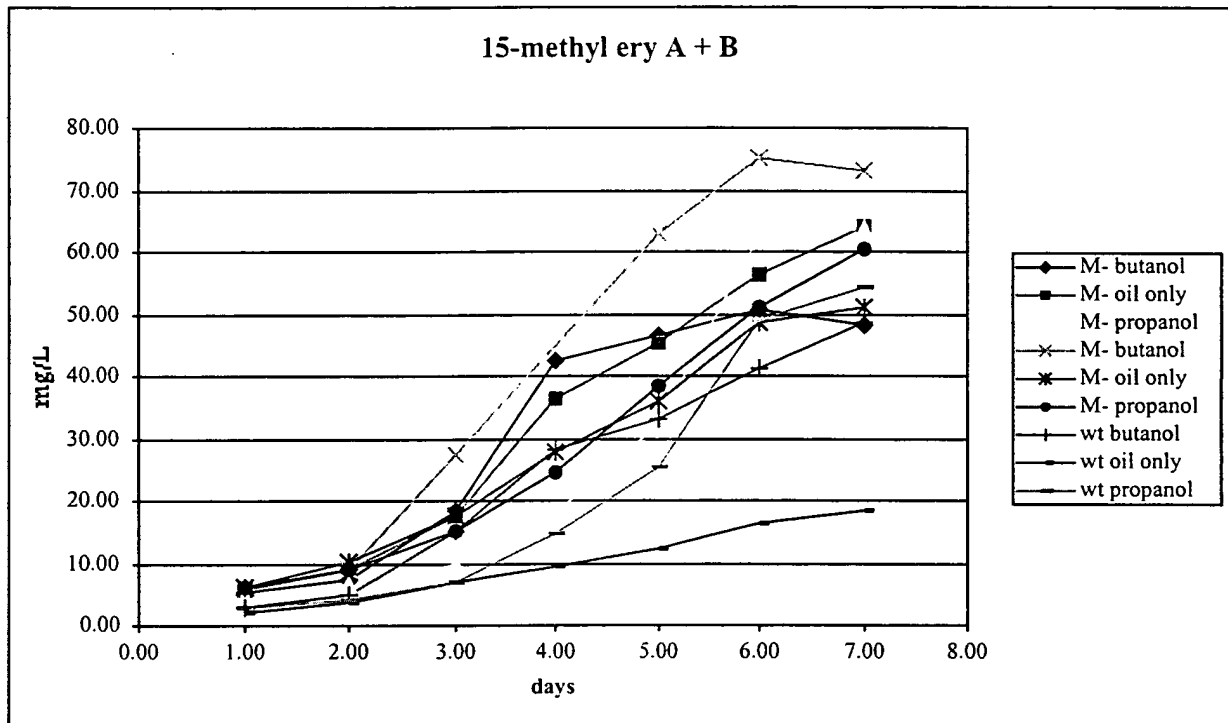


Figure 4

Figure 5



8/20

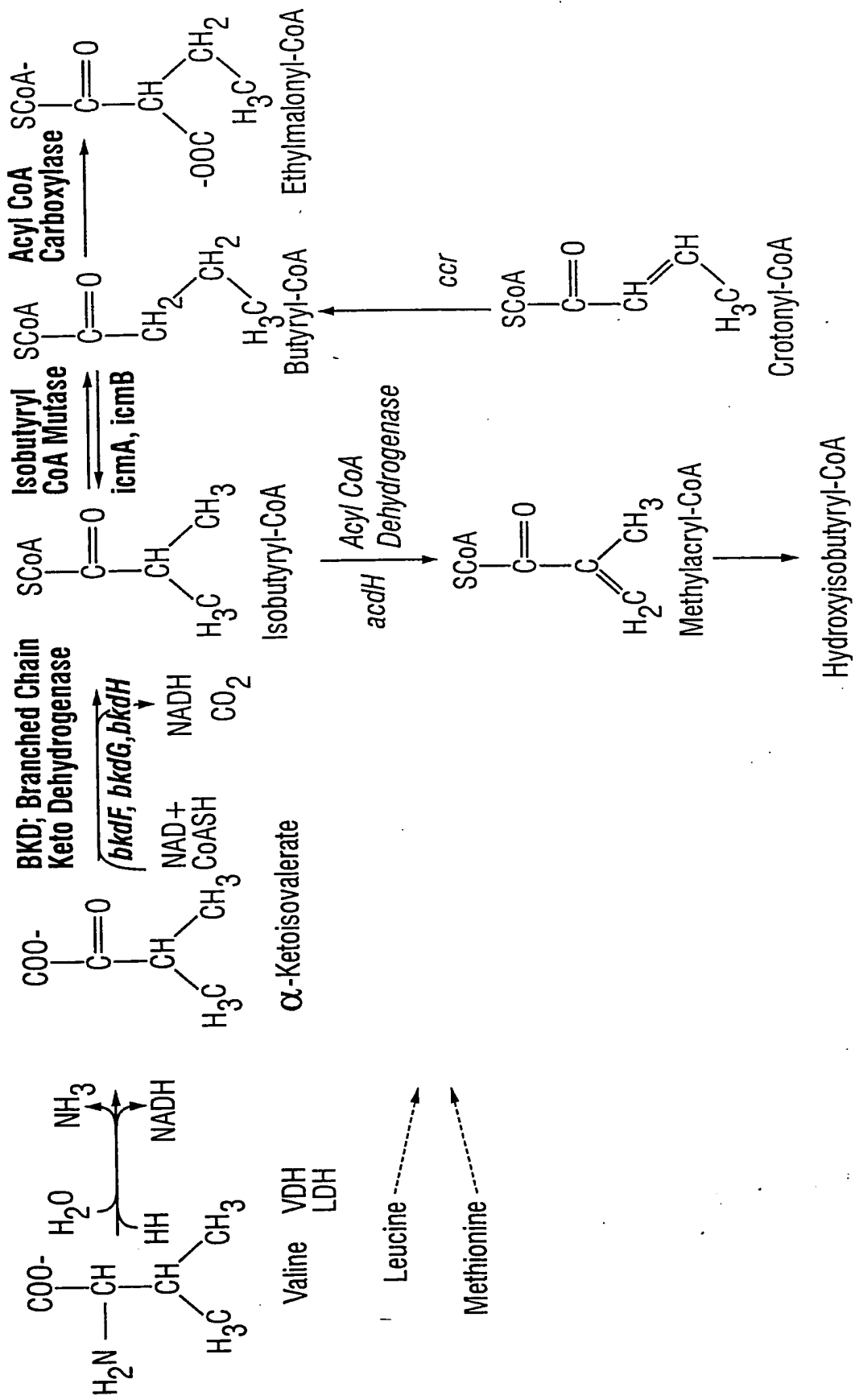
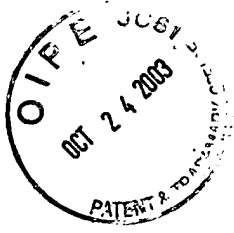


Figure 6 A



9/20

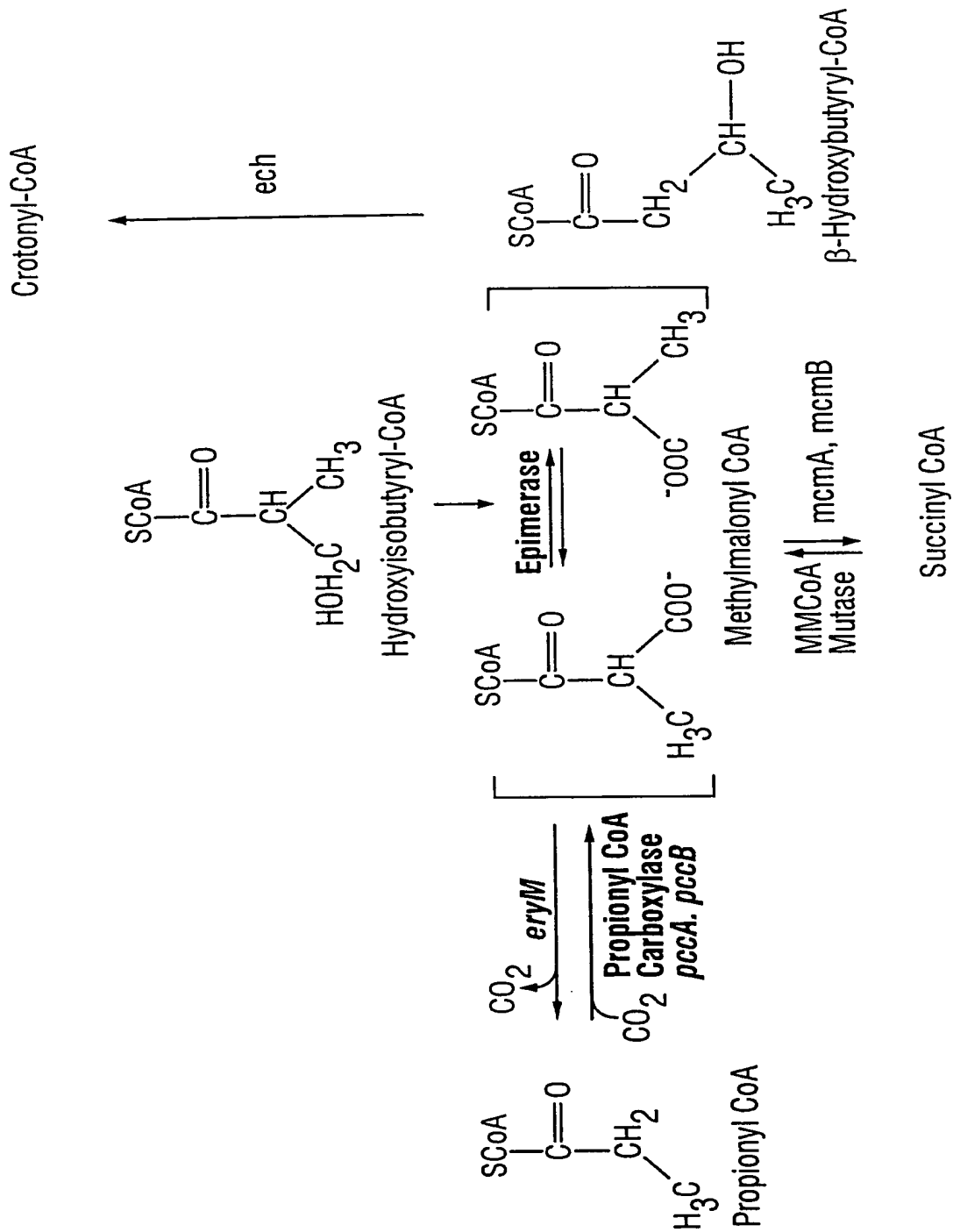
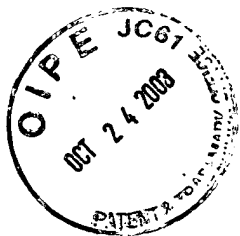


Figure 6 B



10/20

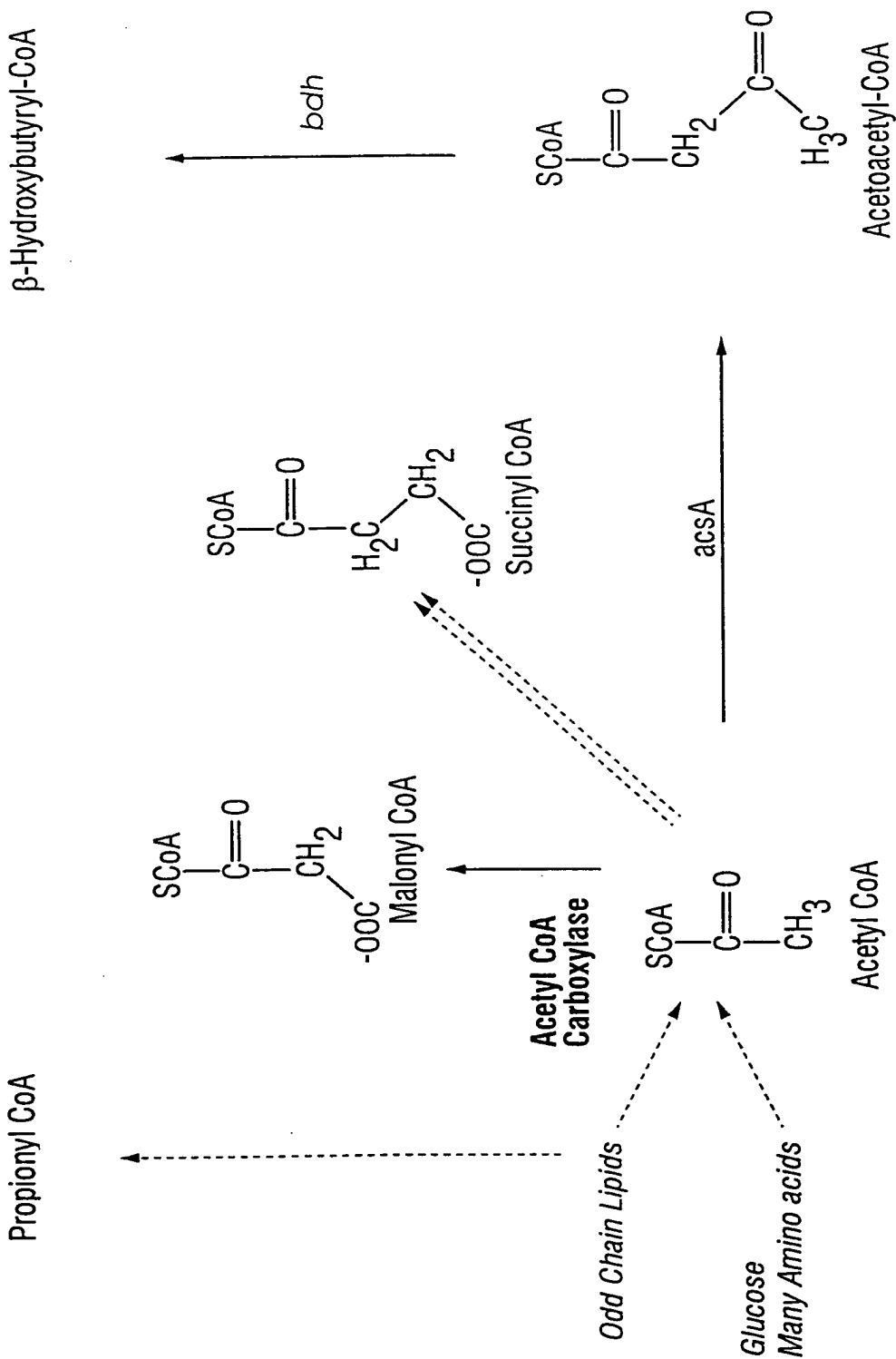
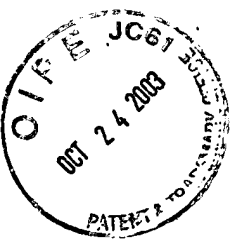


Figure 6 C



11/20

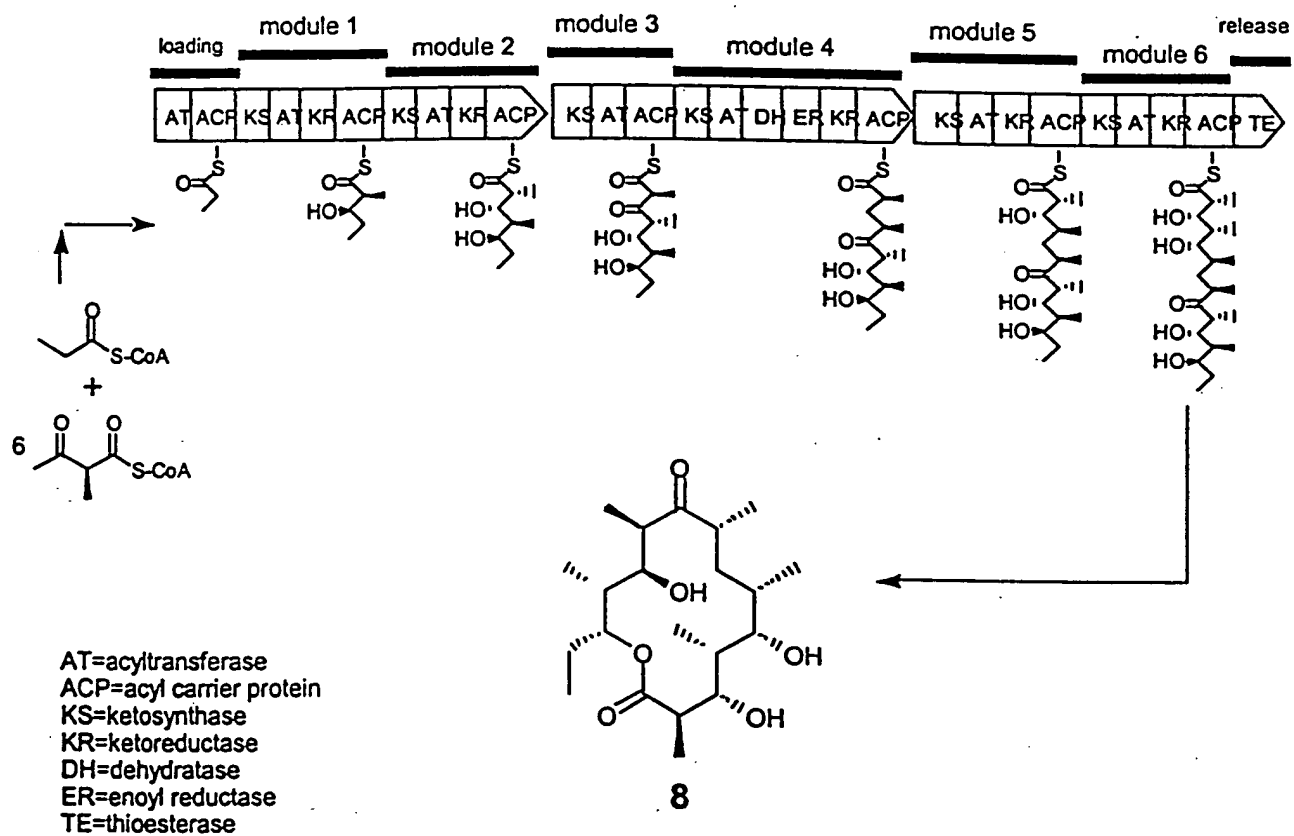


Figure 7



12/20

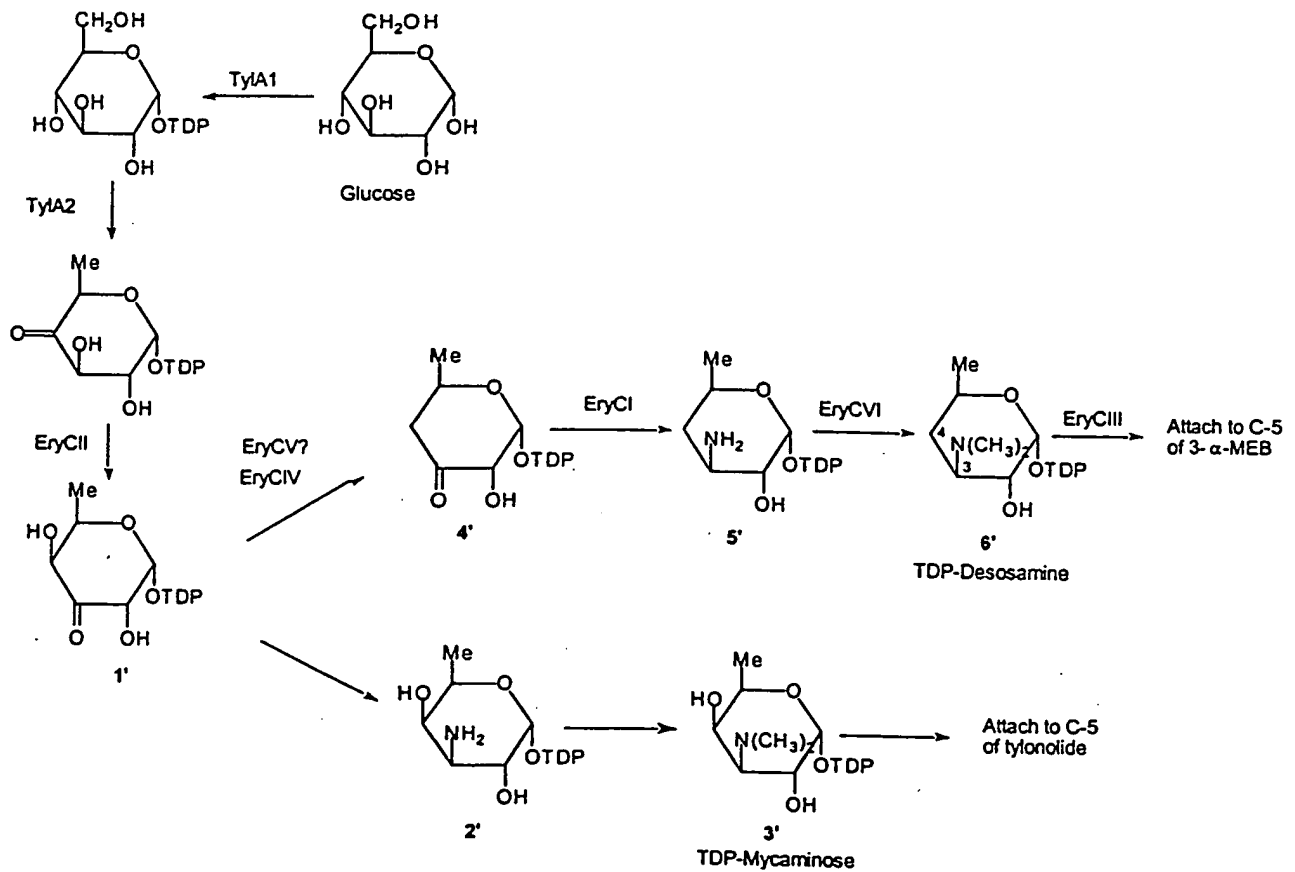


Figure 8

OIPF 3001
OCT 24 2003
PATENT & TRADEMARK OFFICE

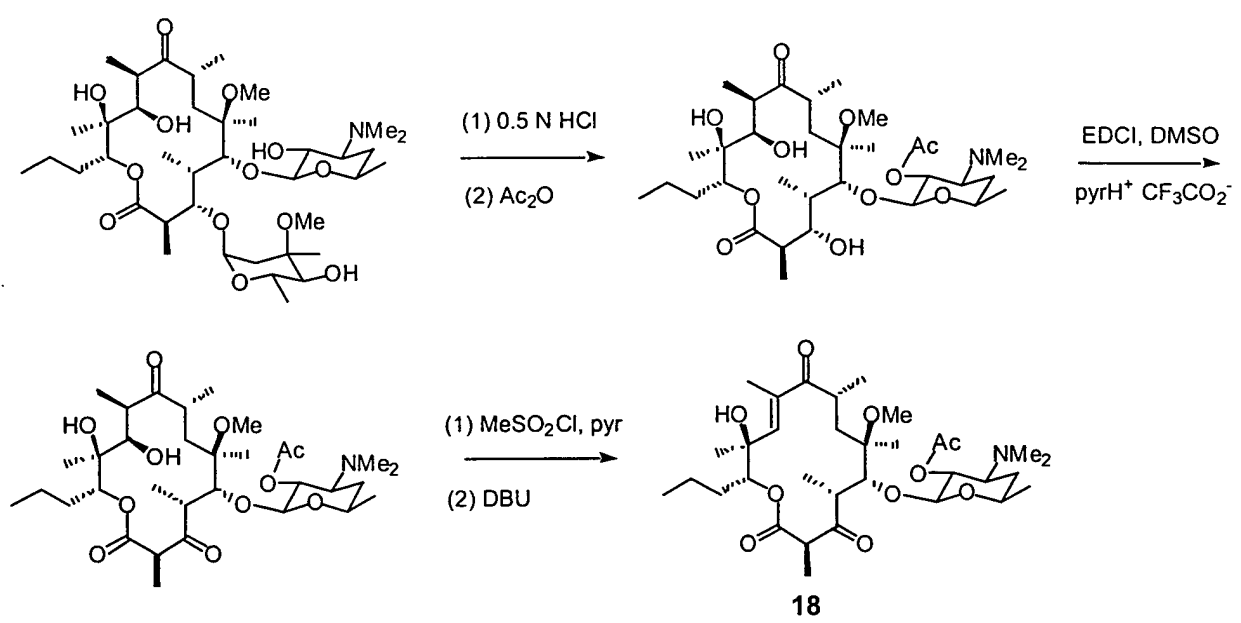
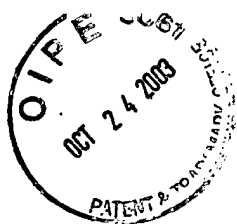


Figure 9



App No.: 10/607,809

Docket No.: 300622004810

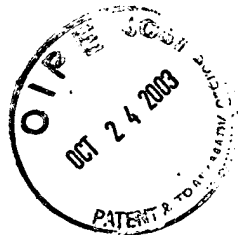
Inventor: Leonard KATZ and Peter REVILL

Title: PRODUCTION OF POLYKETIDES

14/20

Met	His	Val	Pro	Gly	Glu	Glu	Asn	Gly	His	Ser	Ile	Ala	Ile	Val	Gly
1				5				10					15		
Ile	Ala	Cys	Arg	Leu	Pro	Gly	Ser	Ala	Thr	Pro	Gln	Glu	Phe	Trp	Arg
		20						25					30		
Leu	Leu	Ala	Asp	Ser	Ala	Asp	Ala	Leu	Asp	Glu	Pro	Pro	Ala	Gly	Arg
		35					40					45			
Phe	Pro	Thr	Gly	Ser	Leu	Ser	Ser	Pro	Pro	Ala	Pro	Arg	Gly	Gly	Phe
50						55				60					
Leu	Asp	Ser	Ile	Asp	Thr	Phe	Asp	Ala	Asp	Phe	Phe	Asn	Ile	Ser	Pro
65					70					75					80
Arg	Glu	Ala	Gly	Val	Leu	Asp	Pro	Gln	Gln	Arg	Leu	Ala	Leu	Glu	Leu
				85				90						95	
Gly	Trp	Glu	Ala	Leu	Glu	Asp	Ala	Gly	Ile	Val	Pro	Arg	His	Leu	Arg
			100					105					110		
Gly	Thr	Arg	Thr	Ser	Val	Phe	Met	Gly	Ala	Met	Trp	Asp	Asp	Tyr	Ala
		115					120					125			
His	Leu	Ala	His	Ala	Arg	Gly	Glu	Ala	Ala	Leu	Thr	Arg	His	Ser	Leu
		130				135					140				
Thr	Gly	Thr	His	Arg	Gly	Met	Ile	Ala	Asn	Arg	Leu	Ser	Tyr	Ala	Leu
145					150					155					160
Gly	Leu	Gln	Gly	Pro	Ser	Leu	Thr	Val	Asp	Thr	Gly	Gln	Ser	Ser	Ser
				165					170					175	
Leu	Ala	Ala	Val	His	Met	Ala	Cys	Glu	Ser	Leu	Ala	Arg	Gly	Glu	Ser
			180					185					190		
Asp	Leu	Ala	Leu	Val	Gly	Gly	Val	Asn	Leu	Val	Leu	Asp	Pro	Ala	Gly
		195						200				205			
Thr	Thr	Gly	Val	Glu	Arg	Phe	Gly	Ala	Leu	Ser	Pro	Asp	Gly	Arg	Cys
		210				215					220				
Tyr	Thr	Phe	Asp	Ser	Arg	Ala	Asn	Gly	Tyr	Ala	Arg	Gly	Glu	Gly	Gly
225					230				235						240
Val	Val	Val	Val	Leu	Lys	Pro	Thr	His	Arg	Ala	Leu	Ala	Asp	Gly	Asp
				245					250					255	
Thr	Val	Tyr	Cys	Glu	Ile	Leu	Gly	Ser	Ala	Leu	Asn	Asn	Asp	Gly	Ala
			260					265					270		
Thr	Glu	Gly	Leu	Thr	Val	Pro	Ser	Ala	Arg	Ala	Gln	Ala	Asp	Val	Leu
		275					280					285			
Arg	Gln	Ala	Trp	Glu	Arg	Ala	Arg	Val	Ala	Pro	Thr	Asp	Val	Gln	Tyr
		290				295					300				
Val	Glu	Leu	His	Gly	Thr	Gly	Thr	Pro	Ala	Gly	Asp	Pro	Val	Glu	Ala
305					310					315					320
Glu	Gly	Leu	Gly	Thr	Ala	Leu	Gly	Thr	Ala	Arg	Pro	Ala	Glu	Ala	Pro
				325					330					335	
Leu	Leu	Val	Gly	Ser	Val	Lys	Thr	Asn	Ile	Gly	His	Leu	Glu	Gly	Ala
			340					345					350		
Ala	Gly	Ile	Ala	Gly	Leu	Leu	Lys	Thr	Val	Leu	Ser	Ile	Lys	Asn	Arg
		355					360					365			
His	Leu	Pro	Ala	Ser	Leu	Asn	Phe	Thr	Ser	Pro	Asn	Pro	Arg	Ile	Asp
		370				375					380				
Leu	Asp	Ala	Leu	Arg	Leu	Arg	Val	His	Thr	Ala	Tyr	Gly	Pro	Trp	Pro
385					390					395					400
Ser	Pro	Asp	Arg	Pro	Leu	Val	Ala	Gly	Val	Ser	Ser	Phe	Gly	Met	Gly
				405					410					415	

Figure 10 A



Gly Thr Asn Cys His Val Val Leu Ser Glu Leu Arg Asn Ala Gly Gly
420 425 430
Asp Gly Ala Gly Lys Gly Pro Tyr Thr Gly Thr Glu Asp Arg Leu Gly
435 440 445
Ala Thr Glu Ala Glu Lys Arg Pro Asp Pro Ala Thr Gly Asn Gly Pro
450 455 460
Asp Pro Ala Gln Asp Thr His Arg Tyr Pro Pro Leu Ile Leu Ser Ala
465 470 475 480
Arg Ser Asp Ala Ala Leu Arg Ala Gln Ala Glu Arg Leu Arg His His
485 490 495
Leu Glu His Ser Pro Gly Gln Arg Leu Arg Asp Thr Ala Tyr Ser Leu
500 505 510
Ala Thr Arg Arg Gln Val Phe Glu Arg His Ala Val Val Thr Gly His
515 520 525
Asp Arg Glu Asp Leu Leu Asn Gly Leu Arg Asp Leu Glu Asn Gly Leu
530 535 540
Pro Ala Pro Gln Val Leu Leu Gly Arg Thr Pro Thr Pro Glu Pro Gly
545 550 555 560
Gly Leu Val Phe Val Phe Pro Gly Gln Gly Pro Gln Trp Arg Gly Met
565 570 575
Gly Val Glu Leu Met Ala Ala Ser Pro Val Phe Ala Ala Arg Met Arg
580 585 590
Gln Cys Ala Asp Ala Leu Ile Pro His Thr Gly Trp Asp Pro Ile Ala
595 600 605
Met Leu Asp Asp Pro Glu Val Thr Arg Arg Val Asp Val Val His Pro
610 615 620
Val Cys Trp Ala Val Met Val Ser Leu Ala Ala Val Trp Glu Ala Ala
625 630 635 640
Gly Val Arg Pro Asp Ala Val Ile Gly His Ser Gln Gly Glu Ile Ala
645 650 655
Ala Ala Cys Val Ala Gly Ala Leu Thr Leu Glu Asp Gly Ala Arg Leu
660 665 670
Val Ala Leu Arg Ser Val Leu Leu Leu Leu Arg Glu Leu Ala Gly Arg
675 680 685
Gly Ala Met Gly Ser Val Ala Leu Pro Ala Ala Asp Val Glu Ala Asp
690 695 700
Ala Ala Arg Ile Asp Gly Val Trp Val Ala Gly Arg Asn Gly Ala Thr
705 710 715 720
Thr Thr Thr Val Ala Gly Arg Pro Asp Ala Val Glu Thr Leu Ile Ala
725 730 735
Asp Tyr Glu Ala Arg Gly Val Trp Val Arg Arg Ile Ala Val Asp Cys
740 745 750
Pro Thr His Thr Pro Phe Val Asp Pro Leu Tyr Asp Glu Leu Gln Arg
755 760 765
Ile Val Ala Asp Thr Thr Ser Arg Thr Pro Glu Ile Pro Trp Phe Ser
770 775 780
Thr Ala Asp Glu Arg Trp Ile Asp Ala Pro Leu Asp Asp Glu Tyr Trp
785 790 795 800
Phe Arg Asn Met Arg His Pro Val Gly Phe Ala Thr Ala Val Thr Ala
805 810 815
Ala Arg Glu Pro Gly Asp Thr Val Phe Val Glu Val Ser Ala His Pro
820 825 830

Figure 10 B



16/20

Val Leu Leu Pro Ala Ile Asp Gly Ala Thr Val Ala Thr Leu Arg Arg
835 840 845
Gly Gly Gly Val His Arg Leu Leu Thr Ala Leu Ala Glu Ala His Thr
850 855 860
Thr Gly Val Pro Val Asp Trp Ala Ala Val Val Pro Ala Thr Ala Thr
865 870 875 880
Ala His Asp Leu Pro Thr Tyr Ala Phe His His Glu Arg Tyr Trp Ile
885 890 895
Ser His Trp Leu Pro Ser Gly Glu Ala His Pro Arg Pro Ala Asp Asp
900 905 910
Thr Glu Ser Gly Thr Gly Arg Thr Glu Ala Ser Pro Pro Arg Pro His
915 920 925
Asp (SEQ ID NO:3)

Figure 10 C



App No.: 10/607,809

Docket No.: 300622004810

Inventor: Leonard KATZ and Peter REVILL

Title: PRODUCTION OF POLYKETIDES

17/20

Met	His	Val	Pro	Gly	Glu	Glu	Asn	Gly	Glu	Pro	Leu	Ala	Ile	Val	Gly
1				5					10					15	
Met	Ala	Cys	Arg	Leu	Pro	Gly	Gly	Val	Ala	Ser	Pro	Glu	Asp	Leu	Trp
			20					25					30		
Arg	Leu	Leu	Glu	Ser	Gly	Gly	Asp	Gly	Ile	Thr	Ala	Phe	Pro	Thr	Asp
		35					40					45			
Arg	Gly	Trp	Asp	Val	Asp	Gly	Leu	Tyr	Asp	Pro	Asp	Pro	Asp	His	Pro
	50					55				60					
Gly	Thr	Ser	Thr	Val	Arg	His	Gly	Gly	Phe	Leu	Ala	Gly	Val	Ala	Asp
65					70				75					80	
Phe	Asp	Ala	Ala	Phe	Phe	Gly	Ile	Ser	Pro	Arg	Glu	Ala	Leu	Ala	Met
				85					90					95	
Asp	Pro	Gln	Gln	Arg	Leu	Val	Leu	Glu	Thr	Ser	Trp	Glu	Ala	Leu	Glu
			100					105					110		
His	Ala	Gly	Ile	Leu	Pro	Glu	Ser	Leu	Arg	Gly	Ser	Asp	Thr	Gly	Val
		115					120					125			
Phe	Met	Gly	Ala	Phe	Ser	Asp	Gly	Tyr	Gly	Leu	Gly	Thr	Asp	Leu	Gly
	130					135					140				
Gly	Phe	Gly	Ala	Thr	Gly	Thr	Gln	Thr	Ser	Val	Leu	Ser	Gly	Arg	Leu
145					150					155				160	
Ser	Tyr	Phe	Tyr	Gly	Leu	Glu	Gly	Pro	Ala	Val	Thr	Val	Asp	Thr	Ala
				165				170						175	
Cys	Ser	Ser	Ser	Leu	Val	Ala	Leu	His	Gln	Ala	Gly	Gln	Ser	Leu	Arg
			180					185					190		
Ser	Gly	Glu	Cys	Ser	Leu	Ala	Leu	Val	Gly	Gly	Val	Thr	Val	Met	Ala
	195						200					205			
Ser	Pro	Ser	Gly	Phe	Val	Glu	Phe	Ser	Gln	Gln	Arg	Gly	Leu	Ala	Pro
	210					215					220				
Asp	Ala	Arg	Cys	Lys	Ala	Phe	Ala	Asp	Ala	Ala	Asp	Gly	Thr	Gly	Phe
225					230					235				240	
Ala	Glu	Gly	Ser	Gly	Val	Leu	Ile	Val	Glu	Arg	Leu	Ser	Asp	Ala	Glu
				245					250					255	
Arg	Asn	Gly	His	Arg	Val	Leu	Ala	Val	Val	Arg	Gly	Ser	Ala	Val	Asn
			260					265					270		
Gln	Asp	Gly	Ala	Ser	Asn	Gly	Leu	Ser	Ala	Pro	Asn	Gly	Pro	Ser	Gln
	275						280					285			
Glu	Arg	Val	Ile	Arg	Gln	Ala	Leu	Ala	Asn	Ala	Gly	Leu	Thr	Pro	Ala
	290					295					300				
Asp	Val	Asp	Ala	Val	Glu	Ala	His	Gly	Thr	Gly	Thr	Arg	Leu	Gly	Asp
305					310					315				320	
Pro	Ile	Glu	Ala	Gln	Ala	Val	Leu	Ala	Thr	Tyr	Gly	Gln	Gly	Arg	Asp
				325					330					335	
Thr	Pro	Val	Leu	Gly	Ser	Leu	Lys	Ser	Asn	Ile	Gly	His	Thr	Gln	
			340				345					350			
Ala	Ala	Ala	Gly	Val	Ala	Gly	Val	Ile	Lys	Met	Val	Leu	Ala	Met	Arg
		355					360					365			
His	Gly	Thr	Leu	Pro	Arg	Thr	Leu	His	Val	Asp	Thr	Pro	Ser	Ser	His
	370					375					380				
Val	Asp	Trp	Thr	Ala	Gly	Ala	Val	Glu	Leu	Leu	Thr	Asp	Ala	Arg	Pro
385					390					395				400	
Trp	Pro	Glu	Thr	Asp	Arg	Pro	Arg	Arg	Ala	Gly	Val	Ser	Ser	Phe	Gly
				405					410					415	
Val	Ser	Gly	Thr	Asn	Ala	His	Val	Leu	Leu	Glu	Ala	His	Pro	Ala	Gly
			420					425					430		
Glu	Pro	Pro	Ala	Glu	Glu	Pro	Ser	Ala	Ser	Lys	Pro	Gly	Glu	Pro	Leu
		435					440					445			

Figure 11 A



18/20

Ile	Ala	Thr	Pro	Leu	Thr	Pro	Leu	Pro	Val	Ser	Ala	Arg	Thr	Ala	Thr	
450						455					460					
Ala	Leu	Asp	Gly	Gln	Val	Arg	Arg	Leu	Arg	Glu	His	Leu	Ala	Ala	Arg	
465					470					475					480	
Pro	Gly	His	Asp	Pro	Arg	Ala	Ile	Ala	Ala	Gly	Leu	Leu	Ala	Arg	Arg	
				485					490						495	
Thr	Thr	Phe	Pro	His	Arg	Ala	Val	Leu	Leu	Asp	Asp	Asp	Val	Val	Thr	
			500					505					510			
Gly	Thr	Ala	Leu	Thr	Glu	Pro	Arg	Thr	Val	Phe	Val	Phe	Pro	Gly	Gln	
	515						520					525				
Gly	Pro	Gln	Trp	Arg	Gly	Met	Gly	Val	Glu	Leu	Met	Ala	Ala	Ser	Pro	
530						535					540					
Val	Phe	Ala	Ala	Arg	Met	Arg	Gln	Cys	Ala	Asp	Ala	Leu	Ile	Pro	His	
545					550					555					560	
Thr	Gly	Trp	Asp	Pro	Ile	Ala	Met	Leu	Asp	Asp	Pro	Glu	Val	Thr	Arg	
				565					570						575	
Arg	Val	Asp	Val	Val	His	Pro	Val	Cys	Trp	Ala	Val	Met	Val	Ser	Leu	
			580					585						590		
Ala	Ala	Val	Trp	Glu	Ala	Ala	Gly	Val	Arg	Pro	Asp	Ala	Val	Ile	Gly	
	595						600					605				
His	Ser	Gln	Gly	Glu	Ile	Ala	Ala	Ala	Cys	Val	Ala	Gly	Ala	Leu	Thr	
610						615					620					
Leu	Glu	Asp	Gly	Ala	Arg	Leu	Val	Ala	Leu	Arg	Ser	Val	Leu	Leu	Leu	
625					630					635					640	
Leu	Arg	Glu	Leu	Ala	Gly	Arg	Gly	Ala	Met	Gly	Ser	Val	Ala	Leu	Pro	
				645					650						655	
Ala	Ala	Asp	Val	Glu	Ala	Asp	Ala	Ala	Arg	Ile	Asp	Gly	Val	Trp	Val	
			660					665						670		
Ala	Gly	Arg	Asn	Gly	Ala	Thr	Thr	Thr	Thr	Val	Ala	Gly	Arg	Pro	Asp	
	675						680							685		
Ala	Val	Glu	Thr	Leu	Ile	Ala	Asp	Tyr	Glu	Ala	Arg	Gly	Val	Trp	Val	
	690					695				700						
Arg	Arg	Ile	Ala	Val	Asp	Cys	Pro	Thr	His	Thr	Pro	Phe	Val	Asp	Pro	
705					710					715					720	
Leu	Tyr	Asp	Glu	Leu	Gln	Arg	Ile	Val	Ala	Asp	Thr	Thr	Ser	Arg	Thr	
				725					730						735	
Pro	Glu	Ile	Pro	Trp	Phe	Ser	Thr	Ala	Asp	Glu	Arg	Trp	Ile	Asp	Ala	
			740					745						750		
Pro	Leu	Asp	Asp	Glu	Tyr	Trp	Phe	Arg	Asn	Met	Arg	His	Pro	Val	Gly	
	755						760					765				
Phe	Ala	Thr	Ala	Val	Thr	Ala	Ala	Arg	Glu	Pro	Gly	Asp	Thr	Val	Phe	
	770					775					780					
Val	Glu	Val	Ser	Ala	His	Pro	Val	Leu	Leu	Pro	Ala	Ile	Asp	Gly	Ala	
785					790					795					800	
Thr	Val	Ala	Thr	Leu	Arg	Arg	Gly	Gly	Gly	Val	His	Arg	Leu	Leu	Thr	
				805					810						815	
Ala	Leu	Ala	Glu	Ala	His	Thr	Thr	Gly	Val	Pro	Val	Asp	Trp	Ala	Ala	
			820					825						830		
Val	Val	Pro	Ala	Thr	Ala	Thr	Ala	His	Asp	Leu	Pro	Thr	Tyr	Ala	Phe	
	835						840							845		
His	His	Glu	Arg	Tyr	Trp	Ile	Ser	His	Trp	Leu	Pro	Ser	Gly	Glu	Ala	
	850					855					860					
His	Pro	Arg	Pro	Ala	Asp	Asp	Thr	Glu	Ser	Gly	Thr	Gly	Arg	Thr	Glu	
865					870					875					880	
Ala	Ser	Pro	Pro	Arg	Pro	His	Asp	(SEQ ID NO:4)								
				885												

Figure 11 B



App No.: 10/607,809

Docket No.: 300622004810

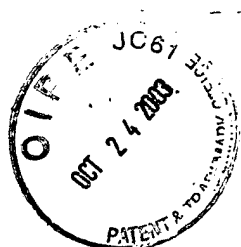
Inventor: Leonard KATZ and Peter REVILL

Title: PRODUCTION OF POLYKETIDES

19/20

Met	His	Val	Pro	Gly	Glu	Glu	Asn	Gly	Glu	Pro	Leu	Ala	Ile	Val	Gly
1				5					10					15	
Met	Ala	Cys	Arg	Leu	Pro	Gly	Gly	Val	Ala	Ser	Pro	Glu	Asp	Leu	Trp
			20					25					30		
Arg	Leu	Leu	Glu	Ser	Gly	Gly	Asp	Gly	Ile	Thr	Ala	Phe	Pro	Thr	Asp
		35					40					45			
Arg	Gly	Trp	Asp	Val	Asp	Gly	Leu	Tyr	Asp	Pro	Asp	Pro	Asp	His	Pro
	50					55				60					
Gly	Thr	Ser	Thr	Val	Arg	His	Gly	Gly	Phe	Leu	Ala	Gly	Val	Ala	Asp
65					70					75					80
Phe	Asp	Ala	Ala	Phe	Phe	Gly	Ile	Ser	Pro	Arg	Glu	Ala	Leu	Ala	Met
				85					90					95	
Asp	Pro	Gln	Gln	Arg	Leu	Val	Leu	Glu	Thr	Ser	Trp	Glu	Ala	Leu	Glu
			100					105					110		
His	Ala	Gly	Ile	Leu	Pro	Glu	Ser	Leu	Arg	Gly	Ser	Asp	Thr	Gly	Val
		115						120				125			
Phe	Met	Gly	Ala	Phe	Ser	Asp	Gly	Tyr	Gly	Leu	Gly	Thr	Asp	Leu	Gly
	130						135				140				
Gly	Phe	Gly	Ala	Thr	Gly	Thr	Gln	Thr	Ser	Val	Leu	Ser	Gly	Arg	Leu
145					150					155					160
Ser	Tyr	Phe	Tyr	Gly	Leu	Glu	Gly	Pro	Ala	Val	Thr	Val	Asp	Thr	Ala
				165					170					175	
Gln	Ser	Ser	Ser	Leu	Val	Ala	Leu	His	Gln	Ala	Gly	Gln	Ser	Leu	Arg
			180					185					190		
Ser	Gly	Glu	Cys	Ser	Leu	Ala	Leu	Val	Gly	Gly	Val	Thr	Val	Met	Ala
		195						200				205			
Ser	Pro	Ser	Gly	Phe	Val	Glu	Phe	Ser	Gln	Gln	Arg	Gly	Leu	Ala	Pro
	210					215					220				
Asp	Ala	Arg	Cys	Lys	Ala	Phe	Ala	Asp	Ala	Ala	Asp	Gly	Thr	Gly	Phe
225					230					235					240
Ala	Glu	Gly	Ser	Gly	Val	Leu	Ile	Val	Glu	Arg	Leu	Ser	Asp	Ala	Glu
				245					250					255	
Arg	Asn	Gly	His	Arg	Val	Leu	Ala	Val	Val	Arg	Gly	Ser	Ala	Val	Asn
			260					265					270		
Gln	Asp	Gly	Ala	Ser	Asn	Gly	Leu	Ser	Ala	Pro	Asn	Gly	Pro	Ser	Gln
		275					280					285			
Glu	Arg	Val	Ile	Arg	Gln	Ala	Leu	Ala	Asn	Ala	Gly	Leu	Thr	Pro	Ala
	290					295					300				
Asp	Val	Asp	Ala	Val	Glu	Ala	His	Gly	Thr	Gly	Thr	Arg	Leu	Gly	Asp
305					310					315					320
Pro	Ile	Glu	Ala	Gln	Ala	Val	Leu	Ala	Thr	Tyr	Gly	Gln	Gly	Arg	Asp
				325					330					335	
Thr	Pro	Val	Leu	Leu	Gly	Ser	Leu	Lys	Ser	Asn	Ile	Gly	His	Thr	Gln
			340					345					350		
Ala	Ala	Ala	Gly	Val	Ala	Gly	Val	Ile	Lys	Met	Val	Leu	Ala	Met	Arg
		355					360					365			
His	Gly	Thr	Leu	Pro	Arg	Thr	Leu	His	Val	Asp	Thr	Pro	Ser	Ser	His
	370					375					380				
Val	Asp	Trp	Thr	Ala	Gly	Ala	Val	Glu	Leu	Leu	Thr	Asp	Ala	Arg	Pro
385					390					395					400
Trp	Pro	Glu	Thr	Asp	Arg	Pro	Arg	Arg	Ala	Gly	Val	Ser	Ser	Phe	Gly
				405					410					415	
Val	Ser	Gly	Thr	Asn	Ala	His	Val	Leu	Glu	Ala	His	Pro	Ala	Gly	
			420					425				430			
Glu	Pro	Pro	Ala	Glu	Glu	Pro	Ser	Ala	Ser	Lys	Pro	Gly	Glu	Pro	Leu
		435					440					445			

Figure 12 A



App No.: 10/607,809

Docket No.: 300622004810

Inventor: Leonard KATZ and Peter REVILL

Title: PRODUCTION OF POLYKETIDES

20/20

Ile Ala Thr Pro Leu Thr Pro Leu Pro Val Ser Ala Arg Thr Ala Thr
450 455 460
Ala Leu Asp Gly Gln Val Arg Arg Leu Arg Glu His Leu Ala Ala Arg
465 470 475 480
Pro Gly His Asp Pro Arg Ala Ile Ala Ala Gly Leu Leu Ala Arg Arg
485 490 495
Thr Thr Phe Pro His Arg Ala Val Leu Leu Asp Asp Asp Val Val Thr
500 505 510
Gly Thr Ala Leu Thr Glu Pro Arg Thr Val Phe Val Phe Pro Gly Gln
515 520 525
Gly Pro Gln Trp Arg Gly Met Gly Val Glu Leu Met Ala Ala Ser Pro
530 535 540
Val Phe Ala Ala Arg Met Arg Gln Cys Ala Asp Ala Leu Ile Pro His
545 550 555 560
Thr Gly Trp Asp Pro Ile Ala Met Leu Asp Asp Pro Glu Val Thr Arg
565 570 575
Arg Val Asp Val Val His Pro Val Cys Trp Ala Val Met Val Ser Leu
580 585 590
Ala Ala Val Trp Glu Ala Ala Gly Val Arg Pro Asp Ala Val Ile Gly
595 600 605
His Ser Gln Gly Glu Ile Ala Ala Ala Cys Val Ala Gly Ala Leu Thr
610 615 620
Leu Glu Asp Gly Ala Arg Leu Val Ala Leu Arg Ser Val Leu Leu Leu
625 630 635 640
Leu Arg Glu Leu Ala Gly Arg Gly Ala Met Gly Ser Val Ala Leu Pro
645 650 655
Ala Ala Asp Val Glu Ala Asp Ala Ala Arg Ile Asp Gly Val Trp Val
660 665 670
Ala Gly Arg Asn Gly Ala Thr Thr Thr Val Ala Gly Arg Pro Asp
675 680 685
Ala Val Glu Thr Leu Ile Ala Asp Tyr Glu Ala Arg Gly Val Trp Val
690 695 700
Arg Arg Ile Ala Val Asp Cys Pro Thr His Thr Pro Phe Val Asp Pro
705 710 715 720
Leu Tyr Asp Glu Leu Gln Arg Ile Val Ala Asp Thr Thr Ser Arg Thr
725 730 735
Pro Glu Ile Pro Trp Phe Ser Thr Ala Asp Glu Arg Trp Ile Asp Ala
740 745 750
Pro Leu Asp Asp Glu Tyr Trp Phe Arg Asn Met Arg His Pro Val Gly
755 760 765
Phe Ala Thr Ala Val Thr Ala Ala Arg Glu Pro Gly Asp Thr Val Phe
770 775 780
Val Glu Val Ser Ala His Pro Val Leu Leu Pro Ala Ile Asp Gly Ala
785 790 795 800
Thr Val Ala Thr Leu Arg Arg Gly Gly Gly Val His Arg Leu Leu Thr
805 810 815
Ala Leu Ala Glu Ala His Thr Thr Gly Val Pro Val Asp Trp Ala Ala
820 825 830
Val Val Pro Ala Thr Ala Thr Ala His Asp Leu Pro Thr Tyr Ala Phe
835 840 845
His His Glu Arg Tyr Trp Ile Ser His Trp Leu Pro Ser Gly Glu Ala
850 855 860
His Pro Arg Pro Ala Asp Asp Thr Glu Ser Gly Thr Gly Arg Thr Glu
865 870 875 880
Ala Ser Pro Pro Arg Pro His Asp (SEQ ID NO:5)
885

Figure 12 B